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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,790	04/18/2005	Yan Xu	5731-000015/US/NP	2316
28997 7590 07/27/2007 HARNESS, DICKY, & PIERCE, P.L.C 7700 BONHOMME, STE 400 ST. LOUIS, MO 63105			EXAMINER FELTON, MICHAEL J	
			ART UNIT 1731	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/531,790	Applicant(s) XU, YAN	
	Examiner Michael J. Felton	Art Unit 1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-16 is/are rejected.
- 7) ☒ Claim(s) 7,9,11 and 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1, 2, and 4-12 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter that the applicant regards as his invention.

3. Claims 1, 2, and 4-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 1; Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The term "self-retaining" in claims 1 and 5 is used by the claim for an unknown meaning, while the accepted meaning is "something retained without the use of retaining aids." (see Maslanka et al. (4,235,982), col. 1, line 65-col.2, line 2). The term is indefinite because the specification does not

Art Unit: 1731

clearly redefine the term. In addition, the claims contradict the accepted usage by stating that a retaining aid is required to make something self-retaining.

Claim Objections

8/7 7/23/07 4. Claims 7, 9, and 12 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 7 recites the addition of a green-bond developing agent, which has already been recited in an earlier dependent claim (claim 4). Claim 9 recites forming a slurry of fibers and adhesive but fails to further limit the claimed slurry. Claims 11 and 12 recite a manufacturing step that fails to further limit the claimed slurry. Claim 12 recites a "low consistency pulp" which was already defined in narrow numerical terms in claim 10.

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Snyder (U.S. 4,941,922).

7. Regarding claim 1, Snyder discloses slurries of agricultural fibers and natural adhesive formulations; the adhesive formulations include water, ungelatinized starch, modified starch (col. 1, 36-41), green-bond developing agent (borax; col. 4, line 46-col.

5 line 2) and caustic (col. 1, 50-52). Snyder also discloses that adding fibers to the adhesive to make a slurry that has improved properties.

8. Although Snyder does not disclose that the major component in the slurry is fiber, it would have been obvious to one of ordinary skill in the art at the time of invention to optimize the amounts of the slurry components for its intended use because it had been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). The motivation to optimize the amount of fiber is taught by Snyder, in col. 8:

“The ratio of fibers to adhesive will determine the properties imparted to the adhesive by presence of the fiber...There is no particular upper limit on the amount of fibers which can be added to an adhesive mixture.”

9. The claim limitations, “wherein said mechanical processing of the agricultural fibers is chemical-free...”, recites only process steps with no indication of producing a different fiber than that used by Snyder. Once the examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983).

10. Claims 2 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Snyder (U.S. 4,941,922) as applied to claim 1 above, in further view of Sheperd (U.S. 1,891,732).

Art Unit: 1731

11. Regarding claims 2 and 13, Snyder discloses the use of starch as a carrier (abstract), but does not teach how fibers are prepared, instead suggesting the structural limitation that fibers should be suspendable in water (col. 8, 26-27). Sheperd discloses a method for obtaining fibers from agricultural waste, using a chemical free slurry (page 2, 40-45) of mechanically processed agricultural fibers, including pressing, digestion under hydrothermal conditions (135 – 148.9 °C, at 0.17 – 0.38 Mpa, for 3-5 hours more or less (page 2, line 28-39)), cutting and refining the fibers (page 1, 82-98). It would have been obvious to one of ordinary skill in the art at the time of invention to use the method described by Sheperd to obtain fibers to be used to make the slurry described by Snyder. The motivation to do so is provided by Snyder in specifying that fibers need to be suspendable in water, something that the Sheperd process is known to accomplish.

12. Claim 2 recites only process steps with no indication of producing a different fiber than that used by Snyder. Once the examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983).

13. Claims 4, 5-9, and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Snyder (U.S. 4,941,922) and Sheperd (U.S. 1,891,732), as applied to claims 1, 2 and 13 above, in further view of Fitt et al. (U.S. 5,358,559).

Art Unit: 1731

14. Regarding claim 4, Snyder does not teach the pH at which the adhesive is made and how long the slurry is mixed, but does disclose that significant amounts of caustic is used (see examples). Fitt et al. disclose adding caustic (col. 1, 24-33) to obtain a pH between 10 and 14, adding ungelatinized starch, a green bonding agent (borax, col. 1, 34-50), and mixing for 3 to 25 minutes (col. 3, 64-68; col. 4, 1-13). It would have been obvious to one of ordinary skill in the art at the time of invention to add caustic to obtain the pH disclosed by Fitt et al. and mix the reactants for the same period of time, because Fitt et al. and Snyder describe the same basic process and both use caustic to perform the same function (producing gelatinized starch).

15. Claim 4 recites only process steps with no indication of producing a different product (the slurry) than that disclosed by Snyder. Once the examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983).

16. Regarding claim 5 and 14, Snyder does not describe any specific retaining aids, nor oxidized starch specifically. However, Fitt et al. does suggest using modified starches, including oxidized starch in adhesive formulations (col. 7, 35-65). It would have been obvious to one of ordinary skill in the art at the time of invention to use modified starch instead of unmodified starch because the replacement is taught by Fitt et al. Fitt et al. state, "while unmodified starch or dextrin can be used to make the

Art Unit: 1731

carrier phase of the present invention, modified starch is preferred because it enables the dissolution of substantially more solids (up to twice the amount attainable with unmodified starch) (col. 7, 35-46).

17. Regarding claim 6, 7, 15, and 16, both Snyder and Fitt et al. add caustic and a green-bond developing agent (boron/borax; Snyder col.1, 45-55; Fitt et al., col. 8, 36-50) as well as use water to produce a slurry.

18. Regarding claim 8, Fitt et al. disclose that water resistant agents can be added (col. 1,60-68).

19. Regarding claim 9, Snyder and Fitt et al. disclose forming a slurry using fibers and adhesive with water.

20. Claim 9 recites only process steps with no indication of producing a different product (the slurry) than that disclosed by Snyder or Fitt et al. Once the examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983).

21. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Snyder (U.S. 4,941,922), Sheperd (U.S. 1,891,732), and Fitt et al. (U.S. 5,358,559) in further view of Palese et al. (2,681,599). Snyder, Sheperd, and Fitt et al. do not disclose using a low consistency slurry to manufacture molded products. However, Palese et al.

Art Unit: 1731

disclose using low consistency slurry (0.01-0.25%, col. 2, 49) to form molded shape bodies (col. 3, 28-41). Although Palese et al. disclose using pulp, other types of natural fibers are disclosed including cotton, caroa, manila, jute, and bagasse. Therefore it would have been obvious to one of ordinary skill in the art that pulp composed of the fibers disclosed in the instant invention could be used in the molding process disclosed by Palese, et al. The motivation to do so would be to produce a final fiber based composite in the final desired shape.

22. Claim 10 recites only process steps with no indication of producing a different product (the slurry) than that disclosed by Snyder or Fitt et al. Once the examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983).

23. Claim 10 recites the functional language "as the feedstock for the manufacture of moulded shape bodies and paper liners". A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

Art Unit: 1731

24. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over as being unpatentable over Snyder (U.S. 4,941,922), Sheperd (U.S. 1,891,732), Fitt et al. (U.S. 5,358,559), and Palese et al. (2,681,599) in further view of Arnold et al. (5,849,152).

25. Regarding claim 11, Snyder, Fitt et al., Sheperd, and Palese et al., do not disclose forming molded shaped bodies using heat a vacuum from slurries of fibers and binder. However, Arnold et al. disclose using heat and molds (col. 7, 20-65) and vacuum (col. 6, 55-56) to produce packaging and other products from fiber and binder mixtures. It would have been obvious to one of ordinary skill in the art at the time of invention that the inventions of Snyder, Fitt et al., Sheperd, and Palese et al. could be used in the molding operation disclosed by Arnold et al. The motivation would have been to produce shaped products, as Sheperd only produced boards, but it is widely know that composite materials can be molded into a variety of shapes.

26. Claim 11 recites only process steps with no indication of producing a different product (the slurry) than that disclosed by Snyder or Fitt et al. Once the examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983).

27. Claim 11 recites the functional language "used to manufacture moulded shape bodies". A claim containing a "recitation with respect to the manner in which a claimed

Art Unit: 1731

apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

28. Regarding claim 12, Palese et al. define using a low consistency slurry ((0.01-0.25%, col. 2, 49) to form products and replacing pulp with the agriculture fiber slurry. Palese et al. disclose that other types of natural fibers (other than wood) can be used including cotton, caroa, manila, jute, and bagasse for forming moulded products.

29. Claim 12 recites only process steps with no indication of producing a different product (the slurry) than that disclosed by Snyder or Fitt et al. Once the examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983).

30. Claim 11 recites the functional language "for the manufacture of paper liners". A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

Art Unit: 1731

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Felton whose telephone number is 571-272-4805. The examiner can normally be reached on Monday to Friday, 7:30 AM to 4:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven P. Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MJF


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